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DEPARTMENT OF THE NAVY  
NAVAL FACILITIES  
ENGINEERING COMMAND  
GUIDE SPECIFICATION  
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NFGS-01525C  
30 September 1997  
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Superseding NFGS-01525B (12/96)  
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NFGS-01525C

SAFETY REQUIREMENTS

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SECTION 01525

SAFETY REQUIREMENTS  
09/97

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NOTE: This guide specification covers  
construction safety requirements and  
requirements for the protection of Government  
people, property and resources. It is intended for  
use in construction, renovation and demolition  
projects in the continental U.S. and overseas.  
The requirements of the guide specification  
supplement Army Corps of Engineers manual EM-385-1-1  
and clarify safety concerns for high risk  
construction activities. All contracts require an  
Accident prevention Plan with associated Activity  
Hazard Analysis (and related specific plans,  
programs, procedures) listed on pages A-3 and A-4  
per COE EM-385-1-1. Some contracts may require  
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additional special safety plans which should be included with respective sections of the specifications. For environmental remediation contracts, an APP is required with the overall contract and a site specific Health and Safety Plan is required for each task order. Contact the EFD/EFA Safety Manager for applicability. Many states and municipalities have more stringent or additional requirements and this section should be modified as required to suit local conditions and regulations.

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NOTE: This revision "C" to NFGS-01525 follows a complete review of the previous version. The text is revised throughout, according to that review.

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## PART 1 GENERAL

### 1.1 SUMMARY

#### 1.1.1 Related Sections

- a. Section 01310, "Administrative Requirements"
- b. Section 01500, "Temporary Facilities and Controls"
- [c. Section 13283, "Removal and Disposal of Lead-Containing Paint"]
- [d. Section 13281, "Engineering Control of Asbestos Containing Materials"]
- [e. Section 02220, "Site Demolition"]
- [f. Section 02302, "Excavation, Backfilling, and Compacting for Utilities"]
- [g. Section 02315, "Excavation and Fill"]
- h. Section 03100, "Concrete Form and Accessories"

### 1.2 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by the basic designation only.

#### AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI)

- |             |  |
|-------------|--|
| ANSI A10.14 | (1991) Construction and Demolition Operations - Requirements for Safety Belts, Harnesses, Lanyards and Lifelines for Construction and Demolition Use |
| ANSI Z359.1 | (1992) Safety Requirements for Personal Fall Arrest Systems  |

CODE OF FEDERAL REGULATIONS (CFR)

29 CFR 1910.94	Ventilation
29 CFR 1910.120	Hazardous Waste Operations and Emergency Response
29 CFR 1926.65	Hazardous Waste Operations and Emergency Response
29 CFR 1926.502(f)	Warning Line Systems

CORPS OF ENGINEERS (COE)

COE EM-385-1-1	(1996) Safety and Health Requirements Manual
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NATIONAL FIRE PROTECTION ASSOCIATION (NFPA)

NFPA 70	(1996) National Electric Code
NFPA 241	(1996) Safeguarding Construction, Alteration, and Demolition Operations

1.3 DEFINITIONS

- [a. Certified Industrial Hygienist. An industrial hygienist is an individual who is certified by the American Board of Industrial Hygiene.]
- [b. Certified Safety Professional. A safety manager, safety specialist, or safety engineer that has passed the CSP exam administered by the Board of Certified Safety Professionals.]
- c. Confined Space. A space which by design has limited openings for entry and exit, unfavorable natural ventilation which could contain or produce dangerous air contaminants, and which is not intended for continuous employee occupancy, engulfment or any other recognized safety or health hazard. Confined spaces include, but are not limited to storage tanks, process vessels, pits, silos, vats, degreasers, reaction vessels, boilers, ventilation and exhaust ducts, sewers, tunnels, underground utility vaults, and pipelines.
- d. Multi-employer work site (MEWS). The prime contractor is the "controlling authority" for all work site safety and health of the subcontractors.
- e. Recordable Occupational Injuries or Illness. An occupational injury or illnesses which result in serious injuries, lost workday cases, non-fatal cases or significant mishaps.
- f. Serious Injuries & Fatalities. Regardless of the time between the injury and death or the length of the illness; hospitalization of three or more employees; or property damage in excess of \$200,000.
- g. Lost Workday Cases. Injuries, other than fatalities, that result in lost workdays.
- h. Non-Fatal Cases. Cases without lost workdays which result in transfer to another job or termination of employment, or require

medical treatment (other than first aid) or involve property damage in excess of \$10,000 but less than \$200,000 or involve: loss of consciousness or restriction of work or motion. This category also includes any diagnosed occupational illnesses which are reported to the employer but are not classified as fatalities or lost workday cases.

- i. Health and Safety Plan (HASP). The HASP is the Navy equivalent Army term of SHP or SSHP used in COE EM-385-1-1. "USACE" property and equipment specified in COE EM-385-1-1 should be interpreted as Government property and equipment.
- j. Safety Officer. The superintendent or other qualified or competent person who is responsible for the on-site safety required for the project. The contractor quality control person cannot be the safety officer, even though the QC has safety inspection responsibilities as part of the QC duties.
- k. Significant Contractor Mishap. A contractor mishap which involves falls of  $\sim 1200$  mm  $\sim 4$  feet or more, electrical mishaps, confined space mishaps, diving mishaps, equipment mishaps, and fire mishaps which result in a lost time injury, or property damage of \$10,000 or more, but less than \$200,000; or when fire department or emergency medical treatment (EMT) assistance is required.
- l. Medical Treatment. Treatment administered by a physician or by registered professional personnel under the standing orders of a physician. Medical treatment does not include first aid treatment provided by a physician or registered personnel.
- m. First Aid. A one-time treatment, and follow-up visit for the purpose of observation, of minor scratches, cuts, burns, splinters, and so forth, which do not ordinarily require medical care, even though provided by a physician or registered professional personnel.
- n. Lost Workdays. The number of days (consecutive or not) after, but not including, the day of injury or illness during which the employee would have worked but could not do so; that is, could not perform all or part of his normal assignment during all or any part of the workday or shift; because of the occupational injury or illness.

#### 1.4 SUBMITTALS

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NOTE: The "G" in asterisk tokens following each submittal item indicates Government approval and should be retained. Add "G" in asterisk tokens following any added submittals that are determined to require Government approval. Submittal items not designated with a "G" will be approved by the QC organization.  
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Submit the following in accordance with section entitled "Submittal Procedures."

#### 1.4.1 SD-08, Statements

- a. Accident prevention plan (APP) G
- b. Activity Hazard Analysis (AHA) G
- c. Health and Safety Plan (HASP) G

##### 1.4.1.1 Accident Prevention Plan (APP)

Submit at least 15 calendar days prior to start of work at the job site, follow Appendix A of COE EM-385-1-1, make APP site specific, Notice To Proceed will be given after Government finds the APP acceptable.

##### 1.4.1.2 Activity Hazard Analysis (AHA)

Submit the AHA for the preparatory phase as a part of the APP. Submit subsequent AHA for each major phase of work at least 15 calendar days prior to the start of that phase. Format subsequent AHA as amendments to the APP.

##### 1.4.1.3 [Health and Safety Plan (HASP)]

Allow 30 calendar days for review by Naval Environmental Health Center for health hazard review and Naval Facilities Engineering Command, Engineering Field Division (EFD) or Engineering Field Activity (EDA) construction safety manager. The Contracting Officer will act on the HASP only after 30 day NEHC and EFD/EFA safety manager reviews.]

#### 1.4.2 SD-18, Record

- a. Daily Confined Space Entry Permit. Submit one copy of each permit attached to each Daily Production Report.
- b. Reports. Submit reports as their incidence occurs, in accordance with the requirements of the paragraph entitled, "Reports."

#### 1.5 QUALITY ASSURANCE

##### 1.5.1 Qualifications

- a. Qualifications of Safety Officer:
  - (1) Ability to manage the on-site contractor safety program through appropriate management controls,
  - (2) Ability to identify hazards and have the capability to expend resources necessary to abate the hazards.
  - (3) Must have worked on similar types of projects that are equal to or exceed the scope of the project assigned with the same responsibilities.
- b. Qualifications of Qualified Person, Confined Space Entry. The qualified person shall be capable (by education and specialized training) of anticipating, recognizing, and evaluating employee exposure to hazardous substances or other unsafe conditions in a confined space. This person shall be capable of specifying necessary control and protective action to ensure worker safety. [Since this work involves marine operations that handle combustible

or hazardous materials, this qualified person shall be a NFPA certified marine chemist.]

- c. Qualification of Crane Operators. Crane operators shall meet the requirements in COE EM-385-1-1, Appendix G.

#### 1.5.2 Qualifications of Qualified Person, Confined Space Entry

The qualified person shall be capable (by education and specialized training) of anticipating, recognizing, and evaluating employee exposure to hazardous substances or other unsafe conditions in a confined space. This person shall be capable of specifying necessary control and protective action to ensure worker safety. [Since this work involves marine operations that handle combustible or hazardous materials, this qualified person shall be a NFPA certified marine chemist.]

#### 1.5.3 Qualification of Crane Operators

Crane operators shall meet the requirements in COE EM-385-1-1, Appendix G.

#### 1.5.4 Meetings

##### 1.5.4.1 Preconstruction Conference

The safety officer shall attend the preconstruction conference required by Section 01310, "Administrative Requirements."

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NOTE: Include this requirement only for projects  
which require a Health and Safety Plan.  
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##### 1.5.4.2 [Meeting on Work Procedures

Meet with Contracting Officer to discuss work procedures and safety precautions required by the HASP. Ensure the participation of the Contractor's superintendent, the Quality Control, and the CSP or CIH.]

##### 1.5.4.3 Weekly Safety Meetings

Hold weekly. Attach minutes showing contract title, signatures of attendees and a list of topics discussed to the QC Contractor Quality Control daily report.

#### 1.6 ACCIDENT PREVENTION PLAN (APP)

Prepare the APP in accordance with the required and advisory provisions of COE EM-385-1-1 including Appendix A, "Minimum Basic Outline for Preparation of Accident Prevention Plan," and as modified herein. Include the associated AHA and other specific plans, programs and procedures listed on Pages A-3 and A-4 of COE EM-385-1-1, some of which are called out below.

##### 1.6.1 Contents of the Accident Prevention Plan

- a. Name and safety related qualifications of safety officer (including training and any certifications).
- b. Qualifications of competent and of qualified persons.



- c. Identify of the individual who will complete exposure data (hours worked); accident investigations, reports and logs; and immediate notification of accidents to include subcontractors.
- d. Emergency response plan. Conform to COE EM-385-1-1, paragraph 01.E and include a map denoting the route to the nearest emergency care facility with emergency phone numbers. Contractor may be required to demonstrate emergency response.
- e. Confined Space Entry Plan. Identify the qualified person's name and qualifications, training, and experience. Delineate the qualified person's authority to direct work stoppage in the event of hazardous conditions. Include procedure for rescue by contractor personnel and the coordination with emergency responders. (If there is no confined space work, include a statement that no confined space work exists and none will be created.)
- [f. Hazardous Material Use. Provisions to deal with hazardous materials, pursuant to the Contract Clause "FAR 52.223-3, Hazardous Material Identification and Material Safety Data." And the following:
  - (1) Inventory of hazardous materials to be introduced to the site with estimated quantities.
  - (2) Plan for protecting personnel and property during the transport, storage and use of the materials
  - (3) Emergency procedures for spill response and disposal, including a site map with approximate quantities on site at any given time. The site map will be attached to the  
  
inventory, showing where the hazardous substances are stored
  - (4) Material Safety Data Sheets for inventoried materials not required in other section of this specification.
  - (5) Labeling system to identify contents on all containers on-site.
  - (6) Plan for communicating high health hazards to employees and adjacent occupants.]
- g. Hazardous Energy Control Plan. For hazardous energy sources, comply with COE EM-385-1-1, paragraph 12.A.07.
- [h. Critical Lift Procedures. Weight handling critical lift plans will be prepared and signed in accordance with COE EM-385-1-1, paragraph 16.c.18.]
- i. Alcohol and Drug Abuse Plan
  - (1) Describe plan for random checks and testing with pre-employment screening in accordance with the DFAR Clause subpart 252.223-7004, "Drug Free Work Force."
  - (2) Description of the on-site prevention program
- j. Fall Protection Plan. The plan shall be site specific and protect all workers at elevations above  $\sim 1800\text{ mm} \sim$   $\sim 6\text{ feet} \sim$ .

- k. Silica Exposure Reduction. The plan shall include specific procedures to prevent employee silica inhalation exposures.
- [l. Lead Abatement Plan. The safety and health aspects of lead-based paint removal, prepared in accordance with Section 13283, "Removal and Disposal of Lead Containing Paint"].
- [m. Asbestos Abatement Plan. The safety and health aspects prepared in accordance with Section 13281, "Engineering Control of Asbestos Containing Materials"]
- [n. Site Demolition Plan. The safety and health aspects prepared in accordance with Section 02220, "Site Demolition"]
- [o. Excavation Plan. The safety and health aspects prepared in accordance with Section 02302, "Excavation, Backfilling. and Compacting for Utilities"]

#### 1.7 ACTIVITY HAZARD ANALYSIS (AHA)

Prepare for each phase of the work. As a minimum, define activity being performed, sequence of work, specific hazards anticipated, control measures to eliminate or reduce each hazard to acceptable levels, training requirements for all involved, and the competent person in charge of that phase of work. For work with fall hazards, including fall hazards associated with scaffold erection and removal, identify the appropriate fall arrest systems. For work with materials handling equipment, address safeguarding measures related to materials handling equipment. For work requiring excavations, include excavation safeguarding requirements. The appropriate AHA shall be reviewed and attendance documented by Contractor at the preparatory, initial, and follow-up phases of Quality Control

inspection.

#### 1.8 [HEALTH AND SAFETY PLAN (HASP)]

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 NOTE: Include the following for projects where work involves hazardous waste work as directed by EFD/EFA environmental personnel or Safety Manager. An APP is separately required to define the "construction hazards" of HAZWASTE projects.  
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Prepare as required by 29 CFR 1910.120 and COE EM-385-1-1.

##### 1.8.1 Qualified Personnel

Retain a Certified Industrial Hygienist (CIH) or a Certified Safety Professional (CSP) to prepare the HASP, conduct activity hazard analyses, and prepare detailed plan for demolition, removal, and disposal of materials. [Retain the CIH or CSP for duration of contract.]

##### 1.8.2 Contents

In addition to the requirements of COE EM-385-1-1, Table 28-1, the HASP must include:

- a. Location, size, and details of control areas.
- b. Location and details of decontamination systems.

- c. Interface of trades involved in the construction.
- d. Sequencing of work.
- e. Disposal plan.
- f. Sampling protocols.
- g. Testing labs.
- h. Protective equipment.
- i. Pollution control.
- j. Evidence of compliance with 29 CFR 1910.120 and 29 CFR 1926.65.
- k. Training and certifications of CIH, CSP or other competent persons.]

#### 1.9 DRUG PREVENTION PROGRAM

Conduct a proactive drug and alcohol use prevention program for all workers, prime and subcontractor, on the site. Ensure that no employees either use illegal drugs or consume alcohol during work hours. Ensure no employees under the influence of drugs or alcohol during work hours. After accidents, collect blood, urine or saliva specimens and test injured employee influence. A copy of the test shall be made available to the Contracting Officer upon request.

#### 1.10 FALL HAZARD PREVENTION PROGRAM

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NOTE: Use this requirement if there will be any  
exposure to fall hazards.  
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##### 1.10.1 Scaffolds

Delineate the fall protection requirements necessary during the erection and dismantling operation of scaffolds used on the project in the fall protection plan and activity hazard analysis for the phase of work.

##### 1.10.2 Training

Institute a fall protection program. As part of the Fall Protection Program, contractor shall provide training for each employee who might be exposed to fall hazards.

#### 1.11 DUTIES OF THE SAFETY OFFICER

- a. Ensure construction hazards are identified and corrected.
- b. Maintain applicable safety reference material on the job site.
- c. Maintain a log of safety inspections performed.

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NOTE: Include the requirement below only when a  
preconstruction conference is specified for the  
project.

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- d. Attend the pre-construction conference required by Section 01310, "Administrative Requirements."

#### 1.12 DISPLAY OF SAFETY INFORMATION

Display the following information in clear view of the on-site construction personnel:

- a. Map denoting the route to the nearest emergency care facility with emergency phone numbers.
- b. AHA
- c. Confined space entry permit.
- [d. Sign with number of hours worked since last lost workday accident.]

#### 1.13 SITE SAFETY REFERENCE MATERIALS

Maintain safety-related references applicable to the project, including those listed in the article "References." Maintain applicable equipment manufacturers' manuals.

#### 1.14 [HIGH HAZARD WORK AND LONG DURATION

Work under this contract is potentially hazardous. Pursuant to contract

clause "FAR 52.236-13, Accident Prevention, Alternate I," submit in writing additional proposals for effecting accident prevention under hazardous conditions. Meet in conference with Contracting Officer to discuss and develop mutual understanding relative to the administration of the overall safety program.]

#### 1.15 EMERGENCY MEDICAL TREATMENT

Contractors will arrange for their own emergency medical treatment. Government has no responsibility to provide. However, if emergency medical care is rendered by Navy medical services, charges may be billed to Contractor at prevailing rates established in BUMED Instruction 6320.4 series. Reimbursement shall be made by Contractor to Naval Regional Medical Center Collection Agent upon receipt of monthly statement.

#### 1.16 SITE CONDITIONS

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NOTE: Noise exposure from adjacent Government activities must be evaluated based on the exposure potential of the construction site to the Government activities. These activities may require the Contractor to provide a hearing protection program for his employees far in excess of what his work would require. If so, include the criteria so that it is part of the contract that the Contractor bids on. Add the following sentences if warranted.

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#### 1.16.1 Noise

The adjacent Government activities produce sound-pressure levels of [\_\_\_\_\_] dBA steady state, or [\_\_\_\_\_] dBA for [\_\_\_\_\_] minutes, or [\_\_\_\_\_]. Enforce hearing protection protecting Contractor's site personnel from Government produced noise.

#### 1.17 REPORTS

##### 1.17.1 Reporting Reports

For OSHA recordable accidents, the prime contractor will conduct a suitable investigation, complete the Navy Contractor Significant Incident Report (CSIR) form and provide to the Contracting Officer within 5 calendar days of the accident.

##### 1.17.2 Notification

Notify Contracting Officer, within 4 hours, of any accident meeting the definition of OSHA recordable occupational injury or illness. Information shall include Contractor name; contract title; type of contract; name of activity, installation or location where mishap occurred; date and time of mishap; names of personnel injured; extent of property damage, if any; and brief description of mishap (to include type of construction equipment used, PPE used, etc.) In addition to OSHA reporting requirements, initial notification shall be made of any accident involving significant mishaps.

##### 1.17.3 Monthly Exposure Report

Monthly exposure reporting, to the Contracting Officer is required to be attached to the monthly billing request. This report is a compilation of

employee-hours worked each month for all site workers, both prime and subcontractor.

##### 1.17.4 OSHA Citations and Violations

Provide the Contracting Officer with a copy of each OSHA citation, OSHA report and Contractor response. Correct violations and citations promptly and provide written corrective actions to the Contracting Officer.

#### PART 2 PRODUCTS

##### 2.1 FALL PROTECTION ANCHORAGE

Fall protection anchorages, used by contractors to protect their people, will be left in place and so identified for continued customer use.

##### 2.2 CONFINED SPACE SIGNAGE

Provide permanent signs integral to or securely attached to access covers for new confined spaces. Signs wording: "DANGER--PERMIT REQUIRED CONFINED SPACE - DO NOT ENTER -" on bold letters a minimum of  $\sim 25\text{ mm} \sim$   $\sim$ one inch $\sim$  in height and constructed to be clearly legible with all paint removed. The signal word "DANGER" and shall be red and readable from  $\sim 1.52\text{ m} \sim$   $\sim 5\text{ feet} \sim$ .

## PART 3 EXECUTION

### 3.1 CONSTRUCTION

Comply with COE EM-385-1-1, NFPA 241, the accident prevention plan, the activity hazard analysis and other related submittals and activity fire and safety regulations.

#### 3.1.1 Hazardous Material Exclusions

Notwithstanding any other hazardous material used in this contract, radioactive materials or instruments capable of producing ionizing/non-ionizing radiation as well as materials which contain asbestos, mercury or polychlorinated biphenyls, di-isocyanates, lead-based paint are prohibited. Exceptions to the use of any of the above excluded materials may be considered by Contracting Officer upon written request by Contractor.

#### 3.1.2 Unforeseen Hazardous Material

The design should have identified materials such as PCB, lead paint, and friable and nonfriable asbestos. If [additional] material, not indicated, that may be hazardous to human health upon disturbance during construction operations is encountered, stop that portion of work and notify the Contracting Officer immediately. Within [14] [\_\_\_\_\_] calendar days the Government will determine if the material is hazardous. If material is not hazardous or poses no danger, the Government will direct the Contractor to proceed without change. If material is hazardous and handling of the material is necessary to accomplish the work, the Government will issue a modification pursuant to "FAR 52.243-4, Changes" and "FAR 52.236-2, Differing Site Conditions."

### 3.2 PRE-OUTAGE COORDINATION MEETING

Contractors are required to apply for utility outages a minimum of 15 days

in advance. As a minimum, the request should include the location of the outage, utilities being effected, duration of outage and any necessary sketches. Once approved and prior to beginning work on the utility system requiring shut down, the Contractor shall attend a pre-outage coordination meeting with the ROICC and the Station Utilities Department to review the scope of work and the lock out/tag out procedures for worker protection.

### 3.3 PERSONNEL PROTECTION

#### 3.3.1 Hazardous Noise

Provide hazardous noise signs, and hearing protection, where ever equipment and work procedures produce sound-pressure levels greater than 85 dBA steady state or 140 dBA impulse, regardless of the duration of the exposure.

#### 3.3.2 Fall Protection

Enforce use of the fall protection device named for each activity in the AHA all times when an employee is on a surface \^1800 mm^\ \~6 feet~\ or more above lower levels. Personal fall arrest systems are required when working from an articulating or extendible boom, scissor lifts, swing stages, or suspended platform. Fall protection must comply with ANSI A10.14.

##### 3.3.2.1 Personal Fall Arrest Device

Equipment, subsystems, and components shall meet ANSI Z359.1, Personal Fall Arrest Systems. Only an full-body harness with a shock absorbing lanyard is an acceptable personal fall arrest device. Body belts may only be used as positioning devices only such as for steel reinforcing assembly. Body belts are not authorized as a personal fall arrest device. Harnesses must have upper middle back "D" rings for proper body suspension during a fall. Lanyard must be fitted with a double locking snap hook attachment. Webbing, straps, and ropes must be of synthetic fiber or wire rope.

#### 3.3.2.2 Fall Protection for Roofs

- a. For work within  $\sim 1800 \text{ mm}$   $\sim 6 \text{ feet}$  of an edge, on low pitched roofs, personnel shall be protected by use of personal fall arrest systems, guardrails, safety nets. Safety monitoring system is not adequate fall protection and is not authorized.
- b. For work greater than  $\sim 1800 \text{ mm}$   $\sim 6 \text{ feet}$  from an edge, warning lines shall be erected and installed in accordance with 29 CFR 1926.502(f).
- c. Work on steep roofs requires personal fall arrest, guardrails with toeboards, or safety nets. This requirement includes residential or housing type construction.

#### 3.3.2.3 Safety Nets

Safety nets shall be provided in unguarded workplaces over water, machinery, dangerous operations, or more than  $\sim 7.5 \text{ meters}$   $\sim 25 \text{ feet}$  above surface.

#### 3.3.3 Scaffolding

Employees shall be provided with a safe means of access to the work area on

the scaffold. Climbing of any scaffold braces or supports not specifically designed for access is prohibited. Contractor shall ensure that scaffold erection is performed by employees that are qualified. Do not use scaffold without the capability of supporting at least four times the maximum intended load or without appropriate fall protection as delineated in the accepted fall protection plan. Minimum platform size shall be based on the platform not being greater in height than four times the dimension of the smallest width dimension for rolling scaffold. Some Baker type scaffolding has been found not to meet these requirements. Stationary scaffolds must be attached to structural building components to safeguard against tipping forward or backward. The first tie-in shall be at the height equal to 4 times the width of the scaffold base.

#### 3.3.4 Use of Material Handling Equipment

- a. Material handling equipment such as forklifts shall not be modified with work platform attachments for supporting employees unless specifically delineated in the manufactures printed operating instructions. Crane supported work platforms shall only be used in extreme conditions if the Contractor proves that using any other access to the work location would provide a greater hazard to the workers.
- b. Cranes must be equipped with Load Indicating Devices , anti-two blocks devices, load, boom angle moment indicating indicators.
- c. Christmas-tree lifting (multiple rigged materials) is not allowed.

### 3.3.5 Excavations

The competent person for excavation shall be on site when work is being performed in excavation, and shall inspect excavations prior to entry by workers. Individual must evaluate for all hazards, including atmospheric, that may be associated with the work, and shall have the resources necessary to correct hazards promptly.

### 3.3.6 Conduct of Electrical Work

Underground electrical spaces must be certified safe for entry before entering to conduct work. Cable intended to be cut must be positively identified and de-energized prior to performing each cut. Perform all high voltage cutting remotely. When racking in or live switching of circuit breakers, no additional person other than the switch operator will be allowed in the space during the actual operation. Plan so that work near energized parts is minimized to the fullest extent possible. Use of electrical outages clear of any energized electrical sources is the preferred method. When working in energized substations, only qualified electrical workers shall be permitted to enter. When work requires Contractor to work near energized circuits as defined by the NFPA 70, high voltage personnel must use personnel protective equipment that includes, as a minimum, electrical hard hat, safety shoes, insulating gloves with leather protective sleeves, fire retarding shirts, coveralls, face shields, and safety glasses. Insulating blankets, hearing protection, and switching suits may be required, depending on the specific job and as delineated in the Contractor AHA.

### 3.3.7 Work in Manholes

Contractor shall provide mechanical ventilation for all work accomplished in manholes, unless other hazards are present like friable asbestos.

### 3.3.8 Work in Confined Spaces

Comply with the requirements in Section 06.I of COE EM-385-1-1. Any potential for a hazard in the confined space requires a permit system to be used.

- a. Entry Procedures. Prohibit entry into a confined space by personnel for any purpose, including hot work, until the qualified person has conducted appropriate tests to ensure the confined or enclosed space is safe for the work intended and that all potential hazards are controlled or eliminated and documented. (See Section 06.I.05 of COE EM-385-1-1 for entry procedures.) All hazards pertaining to the space shall be reviewed with each employee during review of the AHA.
- b. Forced air ventilation is required for all confined space entry operations and the minimum air exchange requirements must be maintained.
- c. Ensure the use of rescue and retrieval devices in confined spaces greater than 1500 mm (~5 feet) in depth. Conform to Sections 06.I.09, 06.I.10 and 06.I.11 of COE EM-385-1-1.
- d. Sewer wet walls require continuous atmosphere monitoring with audible alarm for toxic gas detection.
- e. Include training information for employees who will be involved as entrant attendants for the work. Conform to Section 06.I.06 of



COE EM-385-1-1.

- f. Entry Permit. Use ENGFORM 5044-R or other form with the same minimum information for the Daily Confined Space Entry Permit, completed by the qualified person. Post the permit in a conspicuous place close to the confined space entrance.

### 3.3.9 Crystalline Silica

Grinding, abrasive blasting, and foundry operations of construction materials containing crystalline silica, shall comply with OSHA regulations, such as 29 CFR 1910.94, and COE EM-385-1-1, (Appendix C). The Contractor shall develop and implement effective exposure control and elimination procedures to include dust control systems, engineering controls, and establishment of work area boundaries, as well as medical surveillance, training, air monitoring, and personal protective equipment.

### 3.4 ACCIDENT SCENE PRESERVATION

For serious accidents, ensure the accident site is secured and evidence is protected remaining undisturbed until released by the Contracting Officer.

### 3.5 FIELD QUALITY CONTROL

#### 3.5.1 Inspections

Include safety inspection as a part of the daily Quality Control inspections required in Section 01450, "Quality Control."

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NOTE: Suggestions for improvement of this

specification will be welcomed using the Navy  
"Change Request Forms" subdirectory located in  
SPECSINTACT in Jobs or Masters under  
"Forms/Documents" directory or DD Form 1426.  
Suggestions should be forwarded to:

Commanding Officer  
Naval Construction Battalion Center  
NAVFAC 15G/CESO 15E  
1000 23rd Avenue  
Port Hueneme, CA 93043-4301

FAX: (805) 985-6465/982-5196 or DSN 551-5196

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